

CLAIMS

1. An automated storage system comprising:
 - a plurality of storage cells for removable hard disk drives;
 - a backplane including at least one electrical connection to connect the removable hard disk drives to the backplane;
 - transfer robotics operable to access the removable hard disk drives in the storage cells and electrically connect the removable hard disk drives to the backplane via the at least one electrical connection; and
 - a backplane interface operable to convert electrical data signals from the removable hard disk drives electrically connected at the backplane to optical signals for delivery to a system controller.
2. The automated storage system of claim 1 wherein the transfer robotics are operable to transport the backplane to the removable hard disk drives.
3. The automated storage system of claim 1 wherein the transfer robotics are operable to transport the removable hard disk drives to the backplane.
4. The automated storage system of claim 1 wherein the system controller activates the removable hard disk drives for user access via an external port.
5. The automated storage system of claim 1 wherein the backplane interface is operable to convert optical signals received from the system controller into electrical data signals for the removable hard disk drives.

6. The automated storage system of claim 1 further comprising a controller interface operable to convert optical signals received from the backplane interface to electrical data signals for processing at the system controller.

7. The automated storage system of claim 1 further comprising a controller interface operable to convert electrical signals from the system controller to optical signals for delivery to the backplane interface.

8. The automated storage system of claim 1, further comprising a plurality of drive ports mounted to the backplane, each drive port configured to receive electrical data signals from the hard disk drive media electrically connected to the backplane.

9. The automated storage system of claim 1, wherein the backplane interface is optically coupled to a controller interface at the system controller.

10. An automated storage system comprising:

a drawer having a plurality of storage cells for removable hard disk drives;

a backplane provided adjacent the drawer;

at least one electrical connection mounted on the backplane, the electrical connection electrically connecting the removable hard disk drives to the backplane when the drawer is in a closed position;

a system controller optically coupled to the backplane; and

a backplane interface operable to convert electrical data signals from the removable hard disk drives electrically connected at the backplane to optical signals for delivery to the system controller.

11. The automated storage system of claim 10 wherein the system controller selectively activates the removable hard disk drives for user access via an external port.

12. The automated storage system of claim 10 wherein the backplane interface converts optical signals received from the system controller into electrical data signals for the removable hard disk drives.

13. The automated storage system of claim 10 further comprising a controller interface to convert optical signals received from the backplane interface to electrical data signals for processing at the system controller.

14. The automated storage system of claim 10 further comprising a controller interface to convert electrical data signals from the system controller to optical signals for delivery to the backplane interface.

15. A method comprising:

electrically connecting a plurality of removable hard disk drives to a backplane in an automated storage system;

optically coupling the backplane to a system controller; and

converting electrical data signals from the removable hard disk drives electrically connected at the backplane to optical signals for delivery to the system controller.

16. The method of claim 15 further comprising transporting the removable hard disk drives to the backplane in the automated storage system.

17. The method of claim 15 further comprising transporting the backplane to the removable hard disk drives in the automated storage system.

18. The method of claim 15 further comprising selectively activating the removable hard disk drives for user access via an external port.

19. The method of claim 15 further comprising converting optical signals received at the backplane into electrical data signals for the removable hard disk drives.

20. The method of claim 15 further comprising converting optical signals received at the system controller to electrical data signals for processing at the system controller.

21. The method of claim 15 further comprising converting electrical data signals from the system controller to optical signals for delivery to the backplane interface.